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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

		Application Number	10/519,894-Conf. #9848
		Filing Date	December 28, 2004
		First Named Inventor	Hinrich Wiese
		Art Unit	1713
		Examiner Name	Not Yet Assigned
Total Number of Pages in This Submission	8	Attorney Docket Number	62584(45107)

### ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Terminal Disclaimer	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):  Return Receipt Postcard; Copy of English language translation of the International Preliminary Examination Report (7 pages)
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Request for Refund	
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### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	EDWARDS & ANGELL, LLP		
Signature			
Printed name	Christine C. O'Day		
Date	August 25, 2005	Reg. No.	38,256

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV711310078US, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: August 25, 2005

Signature:

(Elisabeth Dunkle)

## PATENT COOPERATION TREATY



## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 12248WO	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/EP2003/006858	International filing date (day/month/year) 27 June 2003 (27.06.2003)	Priority date (day/month/year) 28 June 2002 (28.06.2002)
International Patent Classification (IPC) or national classification and IPC B29C 67/00, C08F 222/32		
Applicant	POLYMATERIALS AG	

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

- I  Basis of the report
- II  Priority
- III  Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV  Lack of unity of invention
- V  Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI  Certain documents cited
- VII  Certain defects in the international application
- VIII  Certain observations on the international application

Date of submission of the demand 27 January 2004 (27.01.2004)	Date of completion of this report 30 September 2004 (30.09.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP2003/006858

**I. Basis of the report**1. With regard to the elements of the international application:<sup>\*</sup> the international application as originally filed the description:

pages \_\_\_\_\_ 1-20 \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the claims:

pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement under Article 19)  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_ 1-31 \_\_\_\_\_, filed with the letter of 17 June 2004 (17.06.2004)

 the drawings:

pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

 the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is: the language of a translation furnished for the purposes of international search (under Rule 23.1(b)). the language of publication of the international application (under Rule 48.3(b)). the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

 contained in the international application in written form. filed together with the international application in computer readable form. furnished subsequently to this Authority in written form. furnished subsequently to this Authority in computer readable form. The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished. The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4.  The amendments have resulted in the cancellation of: the description, pages \_\_\_\_\_ the claims, Nos. \_\_\_\_\_ the drawings, sheets/fig \_\_\_\_\_5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).<sup>\*\*</sup>

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: III.1

A substantive examination has not been requested for claims 27 to 29.

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**Supplemental Box**

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV. 3

WO-A-0126885 (D1) describes a combination of a building material and a bath fluid (supporting fluid) for a method for directly printing components and models, the building material being a liquid resin that is solidified by reaction with a reaction agent contained in the bath fluid (see page 11, line 33 to page 12, line 1). D1 also describes that the bath liquid consists of an aqueous solution (see page 11, lines 20-23). The term "liquid resin" (liquid resin materials) implies "a low-viscous monomer or oligomer compound". The phrase "solidified by reaction" (solidified by reaction with a chemical reaction agent) implicitly states that the compound of the material "polymerizes by the polymerization of at least one component".

The subject matter of claim 1 in alternative A) therefore differs from D1 in that it claims in addition that the compound of the material has a viscosity of less than 200 mPas and in that the bath fluid contains initiator that initiates the polymerization of the building material.

The problem solved thereby is that of producing components with high thermostability and mechanical stability (see page 3, lines 32-35).

Distinguishing features of this type are "special technical features" within the meaning of PCT Rule 13. Independent claims 20 to 22, 30 and 31 disclose methods in which the combination in claim 1 is used to produce components by means of rapid prototyping.

Independent claims 25 and 26 describe the components produced by means of the methods. These claims are all characterized by the same aforementioned special technical features.

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**Supplemental Box**  
(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV. 3

The subject matter of claim 27 discloses a polymer that can be obtained by the reaction of a cyanacrylate with a cyclic ester, anhydride and/or epoxide by anionic polymerization.

The problem solved thereby is that of achieving better hydrolysis stability of the cyanacrylate (see claim 27, first line; page 8, line 24 to page 9, line 10).

The copolymerization of the cyanacrylate with the aforementioned cyclic copolymers is therefore the special technical feature of claim 27.

Thus claims 1 to 26, 30 and 31 and claims 27 to 29 have different and non-corresponding special technical features that solve different problems. The inventions of these two groups of claims are therefore not so linked as to form a single general inventive concept (PCT Rule 13).

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-26, 30, 31	YES
	Claims		NO
Inventive step (IS)	Claims	1-26, 30, 31	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-26, 30, 31	YES
	Claims		NO

## 2. Citations and explanations

1. WO-A-0126885 (D1) is the prior art closest to the product of claim 1.

The subject matter of claim 1 differs from D1 by the specific selection of the components of the building material (cyanacrylate) and the bath fluid (basic aqueous solution).

The problem addressed by the application does appear to be that of providing a combination of a building material and a bath liquid for rapid prototyping methods with which components with high thermostability and mechanical stability can be produced (see description, page 3, lines 32-35).

The combination claimed in claim 1 is neither known from nor anticipated by the prior art.

The subject matter of claim 1 is therefore regarded as novel and inventive under PCT Article 33.

2. Independent claims 30 and 31 describe uses of the product according to claim 1. The subject matter of these claims therefore also meets the requirements of PCT Article 33.

3. Independent claims 20, 21 and 22 describe rapid prototyping methods in which the combination according to

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International application No.

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claim 1 is used. For the same reasons, the subject matter of these claims meets the requirements of PCT Article 33.

4. The products claimed in independent claims 25 and 26 are also regarded as novel and inventive because components produced by the combination of a building material and a bath fluid according to claim 1 are not disclosed by or obvious from any of available prior art documents. The subject matter of these claims therefore also meets the requirements of PCT Article 33.

5. Claims 2 to 19 and claims 23 to 24 are dependent on claim 1 and claims 20 to 22, respectively, and therefore also meet the PCT requirements for novelty and inventive step.